

IFW

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents  
P.O. Box 1450, Alexandria, VA 22313-1450 on:



10/25/04

Date of Deposit

Our File No. NWN01-002-DIV-US

Jonathan M. Blanchard, Ph.D.

Name

*Blanchard*

Signature

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Chad Mirkin, et al.

Serial No. 10/671,381

Filing Date: September 25, 2003

For SCANNING PROBE MICROSCOPY  
PROBE AND METHOD FOR  
SCANNING PROBE CONTACT  
PRINTING

)  
)  
)  
) Examiner To Be Assigned  
)  
) Group Art Unit No. 2881  
)  
)  
)

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the references identified on the attached PTO-1449 form, be made during the course of examination of the above-referenced application for United States Letters Patent.

This application is a divisional application of Serial No. 10/440,022. Accordingly, all information previously submitted to and/or cited by the Examiner is not provided, according to 37 C.F.R. § 1.98(d).

Respectfully submitted,

*Blanchard*

Jonathan M. Blanchard, Ph.D.  
Registration No. 48,927

Evan Law Group LLC  
566 West Adams  
Suite 350  
Chicago, Illinois 60661  
(312) 876-1400



Form PTO-1449 (Rev. 8-88)	Attorney Docket No. NWN01-002-DIV-US	Serial No. 10/671,381
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)	Applicant: Chad Mirkin, et al.	
	Filing Date: September 25, 2003	Group: 2881

### U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A1	6,291,140	09/2001	Andreoli, et al.			
	A2	5,923,637	07/1999	Shimada, et al.			
	A3	5,610,898	03/1997	Takimoto, et al.			
	A4	2004/0007053	01/2004	Lutter, et al.			
	A5	2003/0049381	03/2003	Mirkin, et al.			

### OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS

Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages

Examiner Initial*		
	A6	Brittain, C., et al., "Soft Lithography and Microfabrication", 1998, Physics World, 11, 31-36.
	A7	Kumar, A., et al., "Patterning Self Assembled Monolayers: Applications in Material Science", 1994, Langmuir, 10, pp. 1498-1511.
	A8	Lopez, G.P., et al., "Fabrication and Imaging of Two-Dimensional Patterns of Proteins Adsorbed on Self-Assembled Monolayers by Scanning Electron Microscopy", 1993, Journal of American Chemical Society, 115, pp. 10774-10781.
	A9	Branch, D.W., et al., "Microstamp Patterns of Biomolecules for High-Resolution Neuronal Networks", 1998, Medical and Biological Engineering and Computing, vol. 36, pp. 135-141.
	A10	Marzolin, C., et al., "Patterning of a Polysiloxane Precursor to Silicate Glasses by Microcontact Printing", 1998, Thin Solid Films, 315, pp. 9-12.
	A11	Xia, Y. et al., "Soft Lithography", 1998, Annual Review of Material Science, 28, pp. 153-84.
	A12	K. Ryu, et al., "Precision Patterning of PDMS Thin Films: A New Fabrication Method and Its Applications", Sixth International Symposium on Micro Total Analysis System (mTAS), Nara, Japan, 3-7 November 2002
	A13	Libioulle, L., et al., "Contact-Inking for Microcontact Printing of Alkanethiols on Gold", 1999, Langmuir, 15, pp. 300-304.
	A14	Encyclopedia of Chemical Technology, Volume 14, Kirk-Othmer, 1995, pp. 677-709.
	A15	Khoo, M., et al., "Micro Magnetic Silicone Elastomer Membrane Actuator", 2001, Sensors and Actuators, 89(3), pp. 259-266.
	A16	Jo, B., et al., "Three-Dimensional Micro-Channel Fabrication in Polydimethylsiloxane (PDMS) Elastomer", 2000, J. MEMS, vol. 9, pp.76-81.

Examiner	Date Considered
----------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

A17	Hertel, T., et al., "Manipulation of Individual Carbon Nanotubes and Their Interaction with Surfaces", 1998, Journal of Physical Chemistry B, Vol. 102, pp. 910-915.
A18	Snow, E., et al., "Nanofabrication with Proximal Probes", 1997, Proceedings of the IEEE, vol. 85, pp. 601-611.
A19	Wilson, D.L., et al., "Surface Organization and Nanopatterning of Collagen by Dip-Pen Nanolithography", 2001, PNAS, vol. 98, pp. 13660-13664.
A20	Belaubre, P., et al., "Fabrication of Biological Microarrays Using Microcantilevers", 2003, Applied Physics Letters, vol. 82, pp. 3122-3124.
A21	Lutwyche, M., et al., "5x5 2D AFM Cantilever Arrays A First Step Towards A Terabit Storage Device", 1999, Sensors and Actuators A: Physical, vol. 73, pp. 89-94.
A22	Vettiger, P., et al., "Ultrahigh Density, High-data-rate NEMS-based AFM Storage System", 1999, Microelectronic Engineering, vol. 46, pp. 11-17.
A23	Cooper, E.B., et al., "Terabit-Per-Square-Inch Data Storage With the Atomic Force Microscope", 1999, Applied Physics Letters, vol. 75, pp. 3566-3568.
A24	Piner, R.D., et al., "Dip-Pen' Nanolithography", 1999, Science, vol. 283, pp. 661-663.
A25	Wu, G., et al., "Origin of Nanomechanical Cantilever Motion Generated from Biomolecular Interactions", 2001, Proceedings of the National Academy of Sciences, vol. 98, pp. 1560-1564.
A26	Zhang, M., et al., "A MEMS Nanoplotter with High-Density Parallel Dip-Pen Nanolithography Probe Arrays", 2002, Journal of Nanotechnology, vol. 13, pp. 212-217.
A27	Chow, E.M., et al., "Characterization of a Two-Dimensional Cantilever Array with Through-Wafer Electrical Interconnects", 2002, Applied Physics Letters, vol. 80, pp. 664-666.
A28	Bullen, D., et al., "Micromachined Arrayed Dip Pen Nanolithography (DPN) Probes for Sub-100 nm Direct Chemistry Patterning", presented at 16 <sup>th</sup> International Conference on Micro Electro Mechanical Systems (MEMS), Kyoto, Japan, 2003.
A29	Minne, S.C., et al., "Parallel Atomic Force Microscopy Using Cantilevers with Integrated Piezoresistive Sensors and Integrated Piezoelectric Actuators", 1995, Applied Physics Letters, vol. 67, pp. 3918-3920.
A30	Liu, C., et al., "Mass-Producible Monolithic Silicon Probes for Scanning Probe Microscopes", 1998, Sensors and Actuators A: Physical, vol. 71, pp. 233-237.
A31	Petersen, K.E., "Silicon As A Mechanical Material" 1982, Proceedings of the IEEE, vol. 70, pp. 420-457.
A32	Minne, S.C., et al., "Centimeter Scale Atomic Force Microscope Imaging and Lithography", 1998, Applied Physics Letters, vol. 73, pp. 1742-1744.
A33	Bullen, D., et al., "Thermo-Mechanical Optimization of Thermally Actuated Cantilever Beam Array" July 2002, Proc. SPIE Vol. 4700, Smart Structures and Materials 2002: Smart Electronics, MEMS, and Nanotechnology, pp. 288-295; with separate abstract.
A34	Wang, X., et al., "Scanning Probe with Elastomeric (PDMS) Tip for Scanning Probe Microcontact Printing (SP-uCP)", presented at the 12 <sup>th</sup> International Conference on Solid-State Sensors, Actuators and Microsystems, Boston, MA, June 8-12, 2003.
A35	Wang, X., et al., "Scanning Probe Contact Printing", 2003, Langmuir, Vol. 19, pp. 8951-8955.